DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027241
Date Inspected: 25-Feb-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name:	See Below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG/Tower

Summary of Items Observed:

At the start of the shift this Quality Assurance Lead Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) Quality Control (QC) personnel. The observations and inspections were performed as noted below:

A). This Quality Assurance Lead Inspector (QALI) assigned the QA Inspectors to the following, but not limited to the work station(s) listed , to observe the welding and the QC inspection of the following:

Joselito Lizardo-Tower, at the 9 Meter and 13 Meter Elev. (Observed the welding, QC inspection and testing of diaphragm plates and fit-up of the drop-in plates).

Rene Hernandez-OBG W13 (Observation of the welding, QC inspection and testing of the lifting lug hole), OBG field splice W13/W14 (Observation of welding and QC inspection of the longitudinal stiffener identified as LS6) and QA/NDE verification.

Skyway-No work

NOTE: See QA daily Weld Inspection Reports (WIR) and NDE reports for additional information and details.

Quality Assurance Lead Inspector (QALI) Summary

This QA Lead Inspector (QALI) observed the QA Inspector's Joselito Lizardo and Rene Hernandez monitor the

work performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding parameters, the minimum preheat and the maximum interpass temperatures for compliance with the contract specifications. The QAI's utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the conclusion of the shift, this QA Lead Inspector discussed and reviewed the work performed by the QAI's in regards to the various observations and the verifications of the WPS's, consumables, welding parameters, preheat and interpass temperatures. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications and no issues were noted.

This QALI continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates).

QAI Observations

This QAI observed the Flux Cored Arc Welding (FCAW-G) and the Shielded Metal Arc Welding (SMAW) processes of the drop-in plates identified as Weld Number (WN): 063-1,2, 3,4 and 064-1, 2, 3 & 4 . The Partial Joint Penetration (PJP) groove welding was performed by welding personnel James Zhen ID-6001and Wai Kitlai ID-2953 utilizing the Welding Procedure Specifications (WPS) ABF-WPS-D15-1160, Rev. 0 (root pass) and ABF-WPS-D15-3160-1, Rev. 0 (fill pass). The WPS's were also used by the AB/F Quality Control (QC) Inspector Bernie Docena as a reference during the monitoring and verifying the welding parameters. The QAI also observed the QC inspector verifying the welding parameters for the welder Mr. Zhen and were observed by this QAI as follows: 255 amps, 24.5 volts and a travel speed measured at 295mm/minute. Later in the shift this QAI also observed the QC inspector verifying the welding parameters for the welder Mr. Kitlai and were observed as follows: 275 amps, 24.0 volts and a travel speed measured at 302 mm/minute. The QC inspector also monitored the surface temperatures during the field welding and the following was observed and noted by the QAI: the minimum preheat temperature of 125 degrees Celsius and the maximum interpass temperature of 230 degrees Celsius.

This QAI also observed the fit-up and tack welding of the drop in plates located at various areas at the 9 Meter elevation and identified as WN's: 068-1, 067-1 and 2, 071-1, 2 and 072-1. The tack welding was performed by Jin Pei Wang ID-7299 utilizing the SMAW process identified as ABF-WPS-D15-1160, Rev. 0.

Later in the shift, this QAI observed the welders Xiao Jian Wan, ID-9677 and Wen Han Yu, ID-6317 performing the fit-up and tack welding of the drop in plates identified as WN's: 079-1,2, 080-1, 075-1, 2 and 076-1. The tack welding was performed utilizing the WPS identified as ABF-WPS-D15-1160, Rev. 0. The WPS was also utilized by the QC inspector, Mr. Docena, to monitor the welding and to verify the welding parameters. This work was not completed during this shift and appeared to comply with the contract specifications.

QAI Note: Issue

In regards to WN: 063-2 during the Magnetic Particle Testing (MPT) of the root pass it was noted by the QC inspector that there a crack for approximately the full length of the weld. An incident report was generated regarding this issue.

See attached digital photographs, below, for some of the work observed during this shift.

Summary of Conversations:

There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.

Issue

In conversation with QC Project Lead Inspector Mr. Daquinag, Jr. this QAI was informed that this issue would be submitted to Jim Bowers, Welding Quality Control Manager, for his review and disposition.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer